



PATENT  
P56258

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JFW

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF APPEALS AND INTERFERENCES**

In re Application of:

**Appeal No.** \_\_\_\_\_

TAE-YOUNG KIL

Serial No.: 09/801,807

Examiner: DANIEL JR., WILLIE J.

Filed: 9 March 2001

Art Unit: 2686

For: METHOD AND APPARATUS TO GENERATE AN ALARM ON  
OCCURRENCE OF CELL SECESSION OF A MOBILE STATION IN A  
MOBILE COMMUNICATION SYSTEM (as amended)

**Attn: Board of Patent Appeals & Interferences**

**Paper No. 24**

**SUPPLEMENTAL APPEAL BRIEF**

**Mail Stop Appeal Brief-Patents**

Commissioner for Patents

P.O.Box 1450

Alexandria, VA 22313-1450

Sir:

In response to the November 3, 2006 Notification of Non-Compliant Appeal Brief and pursuant to Appellant's Notice of Appeal filed on 19 October 2004 and reinstated by the Request For Reinstatement of Appeal filed on July 13, 2005 (Paper No. 18), Appellant hereby appeals to the Board of Patent Appeals and Interferences from the final rejection of claims 25-31, as set forth in the final Office action mailed on April 15, 2005 and in the Advisory Action mailed on September 30, 2005.

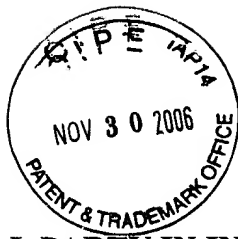
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Date: 11/30/06

I.D.: REB/HMZ/kf

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PATENT  
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**I. REAL PARTY IN INTEREST**

Pursuant to 37 CFR §41.37(c)(1)(as amended), the real party in interest is:

SamSung Electronics Co., Ltd.  
#416, Maetan-dong, Yeongtong-gu  
Suwon-si, Gyeonggi-do, Republic of KOREA

as evidenced by the Assignment executed by the inventor on February 27, 2001 and recorded by the US Patent and Trademark Office on March 9, 2001 at Reel 011610, Frame 0903.

## **II. RELATED APPEALS AND INTERFERENCES**

There are no other appeals and no interferences known to Appellant, Appellant's legal representatives or the assignee which will directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

### **III. STATUS OF CLAIMS**

Claims 1-24 have been canceled. Claim 31 has been objected to as failing to include a "." at the end of the claim. Claims 25-31 are on appeal.

#### **IV. STATUS OF AMENDMENTS**

An Amendment After Final was submitted to the U.S. Patent and Trademark Office on August 19, 2004. The Amendment After Final was not entered for the reasons stated in the October 6, 2004 Advisory Action.

A Petition Under 37 CFR §1.181 requesting entry of the Amendment After Final was submitted concurrently with the Notice of Appeal on October 19, 2004. The Petition was denied.

However, in response to the filing of the December 17, 2004 Appeal Brief, a new Final Office Action was issued on April 15, 2005. The previously filed amendments were entered by this new Office Action.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

As noted in the Field of the Invention, the present invention relates to a radio mobile communications system adapted to generate an alarm signal when a mobile station secedes from a selected cell of a mobile communications system, the alarm informing a user of the mobile station of the secession.

More particularly, as illustrated in Figure 2 and discussed on pages 12-14 of the present specification, the public/private communications service unit 12 of Figure 1 receives a power control parameter from a base station controller and then receives information about the received power level from the mobile station. The received power level from the mobile station is the measured power level of the signal that the mobile station receives from the base station. The base station then detects frame quality information and compare this the frame quality with the power control parameter from the base station controller to determining if the mobile station is seceding from a particular cell. Upon such a determination, the base station transmits cell secession alarm information to the mobile station if the mobile station is registered in the private wireless communications system, the mobile station generating an alarm signal based on the cell secession alarm information.

Independent claim 25 recites five limitations, namely:

Receiving power-related information transmitted from the mobile station and detecting

information about the frame quality from the received information - This limitation is illustrated in steps S22 and S24 of Figure 2 and discussed on lines 6-13 of page 13 of the specification.

Comparing the frame quality information with a power control parameter value of the system - This limitation is illustrated in step S26 of Figure 2 and discussed in the section beginning on line 18 of page 13 and ending on line 5 of page 14 of the specification.

Determining whether the mobile station is registered in the private wireless communication service system upon a determination that a power level of the mobile station is less than a predetermined reference power level - This limitation is discussed on lines 5-7 of page 14 of the specification.

Transmitting information for generating an alarm on an occurrence of a cell secession to the corresponding mobile station upon a determination that the mobile station is registered in the private radio mobile communication system - This limitation is discussed on lines 12-19 of page 14 of the specification.

Transmitting no cell secession alarm information to the corresponding mobile station upon a determination that the mobile station is not registered in the private radio mobile communication system - This limitation is inferred from lines 5-19 of page 14 of the specification.



Independent claim 28 recites eight limitations, namely:

Receiving in a base station of a public and private radio mobile communication system a power control parameter of a mobile station located within a common cell area of the public and private radio mobile communication system from a base station controller of the mobile communication system - This limitation is illustrated in step S20 of Figure 2 and discussed on lines 5-6 of page 13 of the specification.

Receiving power-related information in the base station, the power-related information being related to a received power level of the base station at the mobile station and being generated and transmitted from the mobile station to the base station - This limitation is illustrated in step S22 of Figure 2 and discussed on lines 6-8 of page 13 of the specification.

The base station detecting information as to a frame quality by determining a forward frame error rate from the received power-related information - This limitation is illustrated in step S24 of Figure 2 and discussed on lines 10-13 of page 13 of the specification.

Comparing the determined forward frame error rate with a value corresponding to the power control parameter received from the corresponding base station controller to provide a determined power level of the mobile station - This limitation is discussed on lines 13-17 of page 13 of the specification.

Determining when the determined power level of the mobile station decreases below a predetermined reference power level indicating that the mobile station has seceded from a selected cell of the mobile communication system - This limitation is illustrated in step S26 of Figure 2 and discussed in the section beginning on line 18 of page 13 and ending on line 5 of page 14 of the specification.

Determining whether the mobile station is registered in the private radio mobile communication system when the determined power level of the mobile station is less than the predetermined reference power level - This limitation is discussed on lines 5-7 of page 14 of the specification.

Transmitting information for generating an alarm on an occurrence of a cell secession to the corresponding mobile station upon a determination that the mobile station is registered in the private radio mobile communication system - This limitation is discussed on lines 12-19 of page 14 of the specification.

Transmitting no cell secession alarm information to the corresponding mobile station upon a determination that the mobile station is not registered in the private radio mobile communication system - This limitation is inferred from lines 5-19 of page 14 of the specification.

Independent claim 30 recites five limitations, namely:

A base station of the mobile communication system adapted to receive power-related information transmitted from a mobile station located within a common cell area of a public and private radio mobile communication system, the power-related information being related to a received power level of the base station at the mobile station and being generated and transmitted from the mobile station to the base station - This limitation is performed by element 12 of Figure 1 and illustrated in step S22 of Figure 2 and discussed on lines 6-8 of page 13 of the specification.

An analyzer adapted to analyze the received power-related information to determine when a power level of the mobile station decreases below a predetermined reference power level indicating that the mobile station has seceded from a selected cell of the mobile communication system - This limitation is performed by element 12 of Figure 1 and illustrated in step S26 of Figure 2 and discussed in the section beginning on line 18 of page 13 and ending on line 5 of page 14 of the specification.

The analyzer also adapted to determine whether the mobile station is registered in the private radio mobile communication system upon a determination that a power level of the mobile station is less than a predetermined reference power level - This limitation is performed by element 12 of Figure 1 and discussed on lines 5-7 of page 14 of the specification.

A transmitter adapted to transmit cell secession alarm information for generating an alarm on an occurrence of a cell secession to the corresponding mobile station upon a determination that the mobile station is registered in the private radio mobile communication system - This limitation is performed by element 12 of Figure 1 and discussed on lines 12-19 of page 14 of the specification.

The transmitter adapted to transmit no cell secession alarm information to the corresponding mobile station upon a determination that the mobile station is not registered in the private radio mobile communication system - This limitation is performed by element 12 of Figure 1 and inferred from lines 5-19 of page 14 of the specification.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 25-31 have been rejected under 35 USC §103 as unpatentable over McClelland *et al.*, U.S. Patent No. 6,330,438 in view of Khan *et al.*, U.S. Patent No. 5,926,760 and Hong, U.S. Patent No. 6,298,241 for the reasons stated in section 3 on pages 3-15 of the May 19, 2004 Final Office Action (Paper No. 7).

More specifically, the Examiner alleges it would be obvious to combine the features of McClelland *et al.* and Khan *et al.* and Hong to produce combinations which purportedly meet the recited limitations of rejected claims 25-31.

Claims 25, 28, and 30 have also been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. More specifically, the Examiner has argued that the recited limitation: “transmitting no cell secession alarm information to the corresponding mobile station upon a determination that the mobile station is not registered in the private radio mobile communications system” is not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor at the time the application was filed had possession of the claimed invention.

## VII. ARGUMENT

### Claims 25 and 26:

The Examiner alleges that McClelland et al. teaches all of the recited limitations of claim 25 except for the limitations "registered in the private wireless communications system, detecting and comparing frame quality, and transmitting no cell secession alarm information when not registered in the private radio mobile communications system" and "detecting and comparing the frame quality". The Examiner then alleges that Khan et al. and Hong respectively teach the above-noted limitations deficient in McClelland et al.

It is asserted that the Examiner's rejection of claim 25 is improper and should be reversed for the following reasons:

Claim 25 recites "receiving power-related information transmitted from the mobile station and detecting information about the frame quality from the received information" (emphasis added).

That is, the limitation cited above clearly implies that the power-related information is determined at the mobile station and not at a cell site and further implies that the power-related information is received by the cell site, the cell site detecting information about the frame quality from the received information that has been transmitted from the mobile station.

On the other hand, as noted in the paragraph beginning on line 63 of column 3 and ending on line 12 of column 4 of McClelland et al., the power level of the received voice signal from the mobile unit 62 is measured at the cell site 64 and not at the mobile unit 62.

Accordingly, the McClelland et al. teaches away from the first limitation of claim 25.

The Examiner then admits that McClelland et al. fails to teach [determining whether the mobile station is] registered in the private wireless communications system, detecting and comparing frame quality, and transmitting no cell secession alarm information when [the mobile station] is not registered in the private radio mobile communications system.

The Examiner then alleges that registering [the mobile station] in the private wireless communications system was taught by Khan et al. The Examiner then makes the unsupported statement that "When the mobile station is not registered with the private communications system, the mobile station will have communication with the public communications system in which transmitting of no cell secession alarm would be inherent" in Khan et al.

The Appellant disagrees with the unsupported statement of the Examiner in that there is no teaching or suggestion or even consideration of the feature that the Examiner considers to be inherent in Khan et al.

The Examiner then admits that the combination of McClelland et al. and Khan et al. fails to teach detecting and comparing the frame quality and then alleges that since Hong teaches detecting information about the frame quality from the received information when the mobile station provides power measurement to the base station with the power level and the frame error rate and comparing the frame quality with a power control parameter value of the system, it would be obvious to combine McClelland et al. and Khan et al. and Hong "in order to improve signal quality by adjusting the power and to deteriorate the frame error rate of a signal in a wireless communications system".

The Appellant disagrees in that Hong relates to a method of performing power control in a mobile communications system in which the channel gain between the mobile station and the base station is adjusted based on mobile station error rate information concerning received forward frames. There is no teaching or suggestion or even consideration of notifying that mobile station user of an impending loss of a call to do leaving a particular cell nor does it teach or suggest or even consider whether the mobile unit is registered.

Thus, Hong is totally unrelated in subject matter to McClelland et al. or Khan et al. nor is there any teaching or incentive in either McClelland et al. or Khan et al. to combine the teachings of Hong with the teachings of McClelland et al. and Khan et al. to produce a combination which purportedly meet the recited limitations of claim 25. Rather, the Examiner has used hindsight based on the teachings of the present application to produce a non--obvious



combination.

In view of the above, it is asserted that claim 25 is patentable over McClelland et al. and Khan et al. and Hong.

With regard to claim 26, it is asserted that claim 26 is patentable over McClelland et al. and Khan et al. and Hong by its dependency upon claim 25.

**Claim 27:**

With regard to claim 27, the Examiner alleges that the combination of McClelland et al. and Khan et al. teaches that the power-related information includes at least one of a hand off measurement message which reads on the claimed "power measurement report message" as to the received power level from the mobile station where the mobile station has the power measurement of the reverse link for determining the handoff from one cell site to another cell site.

The Examiner then admits that the proposed combination fails to teach an erasure indicator bit as recited in claim 27. The Examiner then argues that since Hong teaches the use of an erasure indicator bit with regard to an error detected field when the mobile station transmits power information with the frame error rate by using a power measurement report message the frames have an erasure indicator bit that is extracted to detect and error, it would

be obvious to add the erasure indicator bit of Hong to the combination of McClelland et al. and Khan et al. "in order to improve signal quality by adjusting the power and to deteriorate the frame error rate of a signal in a wireless communications system".

The Appellant disagrees with the Examiner for the same reasons noted above with regard to claim 25. That is, Hong is totally unrelated in subject matter to McClelland et al. or Khan et al. nor is there any teaching or incentive or suggestion in either McClelland et al. or Khan et al. to combine the teachings of Hong with the teachings of McClelland et al. and Khan et al. to produce a combination which purportedly meet the recited limitations of claim 27.

In view of the above, it is asserted that claim 27 is patentable over McClelland et al. and Khan et al. and Hong.

**Claims 28 and 29:**

With regard to claims 28 and 29, these claims are method claims corresponding to claims 25 and 26 but clearly now recite essentially inherent features of claims 25 and 26. Namely, claim 28, for example, now recites "receiving power-related information in the base station, the power-related information being related to a received power level of the base station and the mobile station and being generated and transmitted from the mobile station to the base station".

The Examiner has rejected claims 28 and 29 for virtually the same reasons stated with

regard to claims 25 and 26 and accordingly, the Appellant asserts that claims 28 and 29 are patentable over McClelland et al. and Khan et al. and Hong for the reasons noted above with regard to claims 25 and 26.

**Claims 30 and 31:**

With regard to claims of 30 and 31, these claims are apparatus claims reciting elements adapted to perform functions corresponding to the recited method steps of method claims 28 and 29.

Accordingly, the Examiner has rejected claims of 30 and 31 for virtually the same reasons stated with regard to claims 28 and 29 and accordingly, the Appellant asserts that claims 30 and 31 are patentable over McClelland et al. and Khan et al. and Hong for the reasons noted above with regard to claims 28 and 29.

**Claims 25, 28 and 30:**

Claims 25, 28, and 30 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. More specifically, the Examiner has argued that the recited limitation: “transmitting no cell secession alarm information to the corresponding mobile station upon a determination that the mobile station is not registered in the private radio mobile communications system” is not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor at the time the

application was filed had possession of the claimed invention.

Appellants assert that this rejection is incorrect and should be reversed for the following reasons:

The recited limitation in question is supported by the paragraph bridging pages 15 and 16 of the original application. Namely, the cited paragraph states: “When the call is an extension call between the registered subscribers, the cell secession alarm operation and process shown in FIG. 2 is performed. Otherwise, when the call is not an extension call between the registered subscribers, a handoff occurs to a neighbor BTS, such as BTS 8, upon detection of the occurrence or expected occurrence of the cell secession.”

Furthermore, the paragraph bridging pages 9 and 10 of the original application indicates that a mobile station not registered in the public/private communications service unit can receive only the public mobile communications service.

In view of the above, Appellants assert that rejected claims 25, 28, and 30 are fully supported by the original specification and therefore meet all of the statutory requirements of 35 U.S.C. §, first paragraph.

Respectfully submitted,



Robert E. Bushnell,  
Attorney for the Appellant  
Registration No.: 27,774

1522 "K" Street N.W., Suite 300  
Washington, D.C. 20005  
(202) 408-9040

Folio: P56258  
Date: 11/30/06  
I.D.: REB/HMZ

## VIII. CLAIMS APPENDIX

### Claims 25-31

1           25. (Previously Presented) A method of generating an alarm on an occurrence of a cell  
2           secession of a mobile station located within a common cell area of a public and private radio  
3           mobile communication system, the method comprising:

4                 receiving power-related information transmitted from the mobile station and detecting  
5           information about the frame quality from the received information;

6                 comparing the frame quality information with a power control parameter value of the  
7           system;

8                 determining whether the mobile station is registered in the private wireless  
9           communication service system upon a determination that a power level of the mobile station is  
10          less than a predetermined reference power level;

11                transmitting information for generating an alarm on an occurrence of a cell secession to  
12          the corresponding mobile station upon a determination that the mobile station is registered in  
13          the private radio mobile communication system; and

14                transmitting no cell secession alarm information to the corresponding mobile station  
15          upon a determination that the mobile station is not registered in the private radio mobile  
16          communication system.

1           26. (Previously Presented) The method as claimed in claim 25, wherein transmitting  
2           the cell secession alarm information to the mobile station comprises transmitting a  
3           predetermined tone control message over a forward traffic channel.

1           27. (Previously Presented) The method as claimed in claim 25, the power-related  
2           information including at least one of a power measurement report message as to the received  
3           power level from the mobile station and an erasure indicator bit as to an error detected field.

1           28. (Previously Presented) A method comprising:  
2           receiving in a base station of a public and private radio mobile communication system  
3           a power control parameter of a mobile station located within a common cell area of the public  
4           and private radio mobile communication system from a base station controller of the mobile  
5           communication system;  
6           receiving power-related information in the base station, the power-related information  
7           being related to a received power level of the base station at the mobile station and being  
8           generated and transmitted from the mobile station to the base station;  
9           the base station detecting information as to a frame quality by determining a forward  
10          frame error rate from the received power-related information;  
11          comparing the determined forward frame error rate with a value corresponding to the  
12          power control parameter received from the corresponding base station controller to provide a  
13          determined power level of the mobile station;

14 determining when the determined power level of the mobile station decreases below a  
15 predetermined reference power level indicating that the mobile station has seceded from a  
16 selected cell of the mobile communication system;

17 determining whether the mobile station is registered in the private radio mobile  
18 communication system when the determined power level of the mobile station is less than the  
19 predetermined reference power level;

20 transmitting information for generating an alarm on an occurrence of a cell secession to  
21 the corresponding mobile station upon a determination that the mobile station is registered in  
22 the private radio mobile communication system; and

23 transmitting no cell secession alarm information to the corresponding mobile station  
24 upon a determination that the mobile station is not registered in the private radio mobile  
25 communication system.

1 29. (Previously Presented) The method as claimed in claim 28, the power-related  
2 information including at least one of a power measurement report message as to the received  
3 power level from the mobile station and an erasure indicator bit as to an error detected field.

1 30. (Previously Presented) An apparatus comprising:  
2 a base station of the mobile communication system adapted to receive power-related  
3 information transmitted from a mobile station located within a common cell area of a public and  
4 private radio mobile communication system, the power-related information being related to a



5 received power level of the base station at the mobile station and being generated and  
6 transmitted from the mobile station to the base station;

7 an analyzer adapted to analyze the received power-related information to determine when  
8 a power level of the mobile station decreases below a predetermined reference power level  
9 indicating that the mobile station has seceded from a selected cell of the mobile communication  
10 system;

11 the analyzer also adapted to determine whether the mobile station is registered in the  
12 private radio mobile communication system upon a determination that a power level of the  
13 mobile station is less than a predetermined reference power level;

14 a transmitter adapted to transmit cell secession alarm information for generating an alarm  
15 on an occurrence of a cell secession to the corresponding mobile station upon a determination  
16 that the mobile station is registered in the private radio mobile communication system; and

17 the transmitter adapted to transmit no cell secession alarm information to the  
18 corresponding mobile station upon a determination that the mobile station is not registered in  
19 the private radio mobile communication system.

1 31. (Previously Presented) The apparatus as claimed in claim 30, wherein the  
2 transmitter is adapted to transmit a predetermined tone control message over a forward traffic  
3 channel of the mobile communication system indicating that the mobile station has seceded  
4 from the selected cell of the mobile communication system.

## IX. EVIDENCE APPENDIX

### Prior Art references cited during the prosecution to date.

1. U.S. Patent No. 6,381,455 to Smolik, issued on April 30, 2002<sup>1</sup>;
2. U.S. Patent No. 6,330,438 to McClelland *et al.*, issued on December 11, 2001<sup>2</sup>;
3. U.S. Patent No. 6,298,241 to Hong, issued on October 2, 2001<sup>3</sup>;
4. U.S. Patent No. 6,188,890 to Chang, issued on February 13, 2001<sup>4</sup>;
5. U.S. Patent No. 5,926,760 to Khan *et al.*, issued on July 20, 1999<sup>5</sup>;
6. U.S. Patent No. 5,859,838 to Soliman, issued on January 12, 1999<sup>6</sup>;
7. U.S. Patent No. 5,799,244 to Matsumoto, issued on August 25, 1998<sup>7</sup>;
8. U.S. Patent No. 5,684,790 to Hirasawa, issued on November 4, 1997<sup>8</sup>;
9. U.S. Patent No. 5,671,218 to I *et al.*, issued on September 23, 1997<sup>9</sup>;
10. U.S. Patent No. 5,373,548 to McCarthy, issued on December 13, 1994<sup>10</sup>;

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<sup>1</sup> Cited in Paper No. 4 dated 28 November 2003.

<sup>2</sup> Cited in Paper No. 4 dated 28 November 2003.

<sup>3</sup> Cited in Paper No. 4 dated 28 November 2003.

<sup>4</sup> Cited in Paper No. 4 dated 28 November 2003.

<sup>5</sup> Cited in Paper No. 4 dated 28 November 2003.

<sup>6</sup> Cited in the Information Disclosure Statement filed on 9 March 2001

<sup>7</sup> Cited in the Information Disclosure Statement filed on 9 March 2001

<sup>8</sup> Cited in the Information Disclosure Statement filed on 9 March 2001

<sup>9</sup> Cited in the Information Disclosure Statement filed on 9 March 2001

<sup>10</sup> Cited in Paper No. 4 dated 28 November 2003.

11. U.S. Patent No. 5,134,708 to Marui *et al.*, issued on July 28, 1992<sup>11</sup>;
12. U.S. Patent No. 5,105,458 to Takenaka, issued on April 14, 1992<sup>12</sup>; and
13. U.S. Patent No. 4,996,715 to Marui *et al.*, issued on February 26, 1991<sup>13</sup>.

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<sup>11</sup> Cited in the Information Disclosure Statement filed on 9 March 2001

<sup>12</sup> Cited in the Information Disclosure Statement filed on 9 March 2001

<sup>13</sup> Cited in the Information Disclosure Statement filed on 9 March 2001

**X. RELATED PROCEEDINGS APPENDIX**

None.